

State of California  
Regional Water Quality Control Board  
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT  
August 16, 2006

- ITEM: 13
- SUBJECT: NPDES Permit Reissuance: Cabrillo Power I LLC, Encina Power Plant, (Tentative Order No. R9-2006-0043, NPDES No. CA0001350) (Eric Becker)
- PURPOSE: To adopt tentative Order No. R9-2006-0043 reissuing the NPDES permit to Cabrillo Power I LLC to discharge up to 863.5 millions gallons per day (MGD) of once-through cooling water and in-plant waste streams to the Pacific Ocean.
- PUBLIC NOTICE: A newspaper notice regarding tentative Order No. R9-2006-0065 was published in the San Diego Union-Tribune on July 16<sup>th</sup>, 2006. A copy of the tentative Order was sent to Cabrillo (via certified mail) and interested parties were notified of the availability of the tentative Order on July 6<sup>th</sup>, 2006. On July 10<sup>th</sup>, 2006, the tentative Order, monitoring and reporting program, and fact sheet were posted on the Regional Board's website and have been made available at the Regional Board's office for review thereafter.
- DISCUSSION: Cabrillo Power I, LLC, an indirect subsidiary of NRG Energy, Inc., owns and operates the Encina Power Plant, a steam electric generating station that withdraws up to 857.3 MGD once-through cooling water from Pacific Ocean through the Agua Hedionda lagoon. The intake system consists of screening mechanisms to remove fish and debris from the once-through cooling water. Sedimentation, flocculation, and neutralization are used to treat in-plant wastes (low volume and metal cleaning wastewaters). Other in-plant waste streams (storm water, lubrication water, reverse osmosis reject) are discharged directly without treatment. Wastewater is discharged from Discharge Point 001 to the Pacific Ocean a water of the United States.

On June 23, 2004, Cabrillo Power I, LLC (Cabrillo), submitted a Report of Waste Discharge for the renewal of the Order No. R9-2000-0003. The Northern Core Regulatory staff, with assistance from a U.S. EPA funded contractor Tetra Tech, developed tentative Order No. R9-2006-0043 which updates Order No. R9-2000-0003 and makes changes to the effluent limits consistent with federal regulations and the 2005 California Ocean Plan (Ocean Plan).

The tentative Order includes technology-based effluent limits, water quality-based limits from the Ocean Plan, and performance goals:

1. The technology-based effluent limits are based directly on federal guidelines for steam electric power generating sources. Technology based effluents limits for the combined discharge (once-through cooling water low volume waste, and metal cleaning wastes), low volume wastewater (in-plant waste streams), and metal cleaning waste are included in the tentative Order.
2. The need for water quality based effluent limits for parameters Table B of the Ocean Plan was determined using the Reasonable Potential Analysis (RPA) procedures of the Ocean Plan. This statistical analysis was performed on the Cabrillo's historical monitoring data and results show insufficient (greater than 95 percentile) support for water quality-based effluent limits for most of the Ocean Plan parameters.
3. Since water quality based-effluent limits have not been established for most of the Ocean Plan parameters, performance goals have instead been included in tentative Order for the combined discharge. Performance goals are not effluent limitations or standards for the regulation of the discharges, but are parameters that have been assigned monitoring requirements and levels to provide

data for potential changes to effluent limits in the future.

Poseidon Resources Inc. is proposing to construct and operate a desalination plant within the Encina Power plant property. The project would use approximately 100 MGD of the Encina's returning cooling water to produce up to 50 MGD of potable water. The plant will discharge waste seawater and filter backwash through Encina's ocean discharge point under a separate NPDES permit.

As of July 21, 2006, no comments have been received on the tentative Order.

#### SIGNIFICANT CHANGES:

1. Based on the RPA results, most of the effluent limits in the previous Order for the combined discharge have been converted to performance goals. The tentative Order includes effluent limits for only pH, turbidity, total chlorine residual and chronic toxicity that are required by federal regulations and the Ocean Plan.
2. The RPA determined the need for some water quality-based effluents limits. Limits for Hexavalent chromium, copper, mercury, and nickel have been established for the discharge of low volume wastewaters.
3. Parameters listed as performance goals in the tentative Order are required to be monitored semiannually. All other Ocean Plan parameters that are not effluent limits or performance goals are required to be monitored once during the 5-year permit cycle.
4. Cabrillo is required submit a plan and time schedule to address comments, from a consultant for the Regional Board, on Cabrillo's request to exempt Unit 5 from the requirements of the California Thermal Plan (Clean Water Act 316(a)). Units 1-4 are already exempt from these requirements.

5. By 2008, Cabrillo is required to submit plan to minimize adverse environmental effects from the withdrawal of cooling water from the ocean (Clean Water Act 316(b)).

KEY ISSUES: None

LEGAL CONCERNS: None

COMPLIANCE: Cabrillo has generally been in compliance with existing Order No. R9-2000-0003. The 2<sup>nd</sup> 2005 Semiannual Monitoring Report indicated that the discharge exceeded the daily maximum for chronic toxicity. However, the limitation was also exceeded by the influent water and likely caused by conditions in the Agua Hedionda Lagoon from which water for the plant cooling is withdrawn. The plant can meet the proposed new effluent limitations that are consistent with federal regulations and the Ocean Plan.

SUPPORTING DOCUMENTS:

1. Location Map
2. Transmittal Letter to Cabrillo Power I LLC
3. Tentative Order No. R9-2006-0043
4. Fact Sheet for Tentative Order No. R9-2006-0043

RECOMMENDATION: Adoption of Tentative Order No. R9-2006-0043